

## CLAIMS

1           1.     A method in a computer system for using processor  
2 compatibility information to select a compatible processor for addition to a  
3 multiprocessor computer, the multiprocessor computer having at least one current  
4 processor in a CPU slot and having at least one additional CPU slot in which the  
5 new processor can be added, a processor having a revision number, the method  
6 comprising:

7                     obtaining the processor compatibility information that indicates the  
8 various model and revisions of processors that are compatible with each of a set  
9 of processor models and revisions;

10                    determining the number of current processors in the multiprocessor  
11 computer and the model and revision numbers of each processor by executing a  
12 computer program on the multiprocessor computer, the computer program  
13 directing each processor in the multiprocessor computer to execute at least one  
14 instruction that allows the model and revision number of the processor to be  
15 determined; and

16                    comparing the model and revision numbers of the current  
17 processors in the multiprocessor computer with the processor compatibility  
18 information to determine the revision numbers of processors that are compatible  
19 with all current processors.

1           2.     The method of claim 1 wherein the computer program that  
2 determines the number of current processors in the multiprocessor computer also  
3 compares the model and revision numbers of the current processors in the  
4 multiprocessor computer with the processor compatibility information in order to  
5 determine the revision numbers of processors that are compatible with the current  
6 processors.

1           3.     The method of claim 1 wherein a second, separate computer  
2 program is run to compare the model and revision numbers of the current  
3 processors in the multiprocessor computer with the processor compatibility  
4 information in order to determine the revision numbers of processors that are  
5 compatible with the current processors.

1           4.     A method for using processor compatibility information to  
2 select a compatible processor for addition to a multiprocessor computer, a  
3 processor having a processor type, the method comprising:  
4                 obtaining the processor compatibility information that indicates the  
5 processor types of processors that are compatible;  
6                 determining the number of current processors and the processor  
7 type of each current processor; and  
8                 programmatically comparing the processor types of the current  
9 processors with the processor compatibility information to determine the  
10 processor types of processors that are compatible with all current processors.

1           5.     The method of claim 4 wherein a computer program  
2 determines the number of current processors in the multiprocessor computer and  
3 compares the processor types of the current processors in the multiprocessor  
4 computer with the processor compatibility information in order to determine the  
5 processor types of processors that are compatible with the current processors.

1           6.     The method of claim 4 wherein a computer program  
2 determines the number of current processors in the multiprocessor computer and  
3 wherein a second, separate computer program is run to compare the processor  
4 types of the current processors in the multiprocessor computer with the processor  
5 compatibility information in order to determine the processor types of processors  
6 that are compatible with the current processors.

1           7.     The method of claim 4 wherein processor compatibility  
2 information includes, for each commercially available processor, a list of all  
3 processor types that are compatible with the commercially available processor.

1           8.     The method of claim 4 wherein a computer program  
2 determines the processor type of each processor causes each current processor by  
3 executing an instruction that returns a value that represents the processor type of  
4 the current processor.

1           9.     The method of claim 8 wherein the instruction executed by  
2 each current processor is a CPUID instruction.

1           10.    The method of claim 4 wherein a computer program  
2 determines the processor type of each processor by transmitting to each current  
3 processor at least one set of instructions for execution and determining the  
4 processor type of the current processor from the results produced by the current  
5 processor from execution of the sets of instructions.

1           11.    The method of claim 4 wherein a computer program  
2 determines the processor type of each processor by transmitting to each current  
3 processor at least one set of instructions for execution and determining the  
4 processor type of the current processor from the time of execution of the sets of  
5 instructions by the current processor.

1           12.    The method of claim 4 wherein a computer program  
2 determines the processor type of each processor by calling operating-system  
3 specific system calls to determine the number of current processors and to query  
4 each current processor for that processor's processor type.

1           13.    The method of claim 4 wherein the processor compatibility  
2 information used for the comparison is stored in a relational database table.

1           14.    The method of claim 4 wherein processor compatibility  
2 information used for the comparison is stored in a cross-compatibility matrix.

1           15.    The method of claim 4 wherein the programmatic  
2 comparison is performed in computer system other than the multiprocessor  
3 computer.

1           16.    The method of claim 15 wherein the other computer system  
2 is connected to the multiprocessor computer system via the Internet.

1           17.    A system for using processor compatibility information to  
2 select a compatible processor for addition to a multiprocessor computer, a  
3 processor having a processor type, the system comprising:

4                a first component on the multiprocessor computer that determines  
5 the number of current processors in the multiprocessor computer and the  
6 processor types of each processor; and

7                a second component that compares the processor types of the  
8 current processors with the processor compatibility information to determine the  
9 processor types that are compatible with the current processors.

1           18.    The system of claim 17 wherein processor compatibility  
2 information includes, for each commercially available processor, a list of all  
3 processor types that are compatible with the commercially available processor.

1           19.    The system of claim 17 wherein the first component causes  
2 each current processor to execute an instruction that returns a value that  
3 represents the type of the processor.

1           20.    The system of claim 19 wherein the instruction executed by  
2 each current processor is a CPUID instruction.

1           21.    The system of claim 17 wherein the first component  
2 transmits to each current processor at least one set of instructions for execution  
3 and determines the processor type of the processor from the results produced by  
4 the current processor from execution of the sets of instructions.

1           22.    The system of claim 17 wherein the first component  
2 transmits to each current processor at least one set of instructions for execution  
3 and determines the processor type of the processor from the time of execution of  
4 the sets of instructions by the current processor.

1           23.    The system of claim 17 wherein the first component calls  
2 operating-system specific system calls to determine the number of current  
3 processors and to query each current processor for that processor's processor  
4 type.

1           24.    The system of claim 17 wherein the second component is a  
2 computer program that is executed on the multiprocessor computer system.

1           25.    The system of claim 17 wherein the second component is a  
2 computer program that is executed on a separate computer system.

1           26. A computer-readable medium containing instructions for  
2 causing a computer system to use processor compatibility information to select a  
3 compatible processor for addition to a multiprocessor computer, a processor  
4 having a processor type, by:

5                 obtaining the processor compatibility information that indicates the  
6 processor types of processors that are compatible with each of a set of processor  
7 types;

8                 determining the number of current processors in the multiprocessor  
9 computer and the processor type of each current processor by running a computer  
10 program on the multiprocessor computer; and

11                 programmatically comparing the processor types of the current  
12 processors with the processor compatibility information to determine the  
13 processor types of processors that are compatible with all current processors.

1           27. The computer-readable medium of claim 26 wherein the  
2 computer program that determines the number of current processors in the  
3 multiprocessor computer also compares the processor types of the current  
4 processors in the multiprocessor computer with the processor compatibility  
5 information in order to determine the processor types of processors that are  
6 compatible with the current processors.

1           28. The computer-readable medium of claim 26 wherein a  
2 second, separate computer program is run to compare the processor types of the  
3 current processors in the multiprocessor computer with the processor  
4 compatibility information in order to determine the processor types of processors  
5 that are compatible with the current processors.

1           29. The computer-readable medium of claim 26 wherein  
2 processor compatibility information includes, for each commercially available

3 processor, a list of all processor types that are compatible with the commercially  
4 available processor.

1           30. The computer-readable medium of claim 26 wherein the  
2 computer program that determines the processor type of each processor causes  
3 each current processor to execute an instruction that returns a value that  
4 represents the processor type of the current processor.

1           31. The computer-readable medium of claim 30 wherein the  
2 instruction executed by each current processor is a CUID instruction.